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## **SYSTEM AND METHOD FOR INITIATING RETURNS OVER A NETWORK**

### **RELATED APPLICATIONS**

10        This application claims the benefit and priority of pending Provisional  
Application entitled System And Method For Initiating Returns Over A  
Network having Serial No. 60/275,861, filed March 14, 2001, which is  
incorporated herein by reference.

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### **FIELD OF THE INVENTION**

The present invention is a method and system for providing return  
shipping labels to merchants and customers as part of an electronic return  
system.

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### **BACKGROUND OF THE INVENTION**

The increased popularity of the World Wide Web has led to an  
explosion in catalog and online shopping. The growth in e-commerce reflects  
in part increased purchases from veteran online shoppers, deeper Internet  
penetration across the country and the increased number of familiar bricks-  
25 and-mortar retailers online.

Some of the benefits to purchasing products online include the ability  
to avoid crowds, perform quick price comparisons across multiple sellers, and  
access a wider selection of products. However, there are drawbacks to

purchasing goods through a retailer web site. One drawback is the inability to inspect an item before making the purchase. A consumer that buys a product offline at a traditional retail store usually has the opportunity to inspect the color, size and quality of workmanship of a good before the purchase is made.

- 5 In contrast, when a consumer shops online their decision to purchase is based largely on a written description of the product and/or a photograph of the item. No opportunity to inspect the product occurs until after the product is purchased and shipped to the consumer. As a result, many products that are purchased online are returned.

- 10 The typical return transaction involves a customer contacting a merchant, via email or phone, to inform the merchant that the customer intends to return an item previously purchased from the merchant. After approving the return, the merchant obtains a return shipping label from a commercial carrier, such as the United Parcel Service (UPS), and mails the  
15 return shipping label to the customer, along with any special instructions on how to package the item to be returned. Next, the customer repackages the item, affixes the return shipping label to the package and drops the package off with the shipper, who delivers it to the merchant.

- This return process is both time consuming and highly manual. It  
20 usually takes a week or more for the merchant to obtain a return shipping label from a carrier and have the label mailed to the consumer. In addition, the merchant must have customer service representatives available to receive and approve the customer return request, and to initiate the request to the carrier to have a return shipping label generated. Further, if the label is lost or destroyed  
25 in the mailing process, additional delays and expense can result as the consumer contacts the merchant and re-initiates the returns process.

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An alternative returns process is sometimes used to avoid some of the delays discussed above. In the alternative returns process, the merchant has a return shipping label generated for every product sold and encloses the label with the product when it is sent to the customer. The benefit of the alternative  
5 return process is that a customer that wishes to return an item no longer needs to contact the merchant and already has the label required to return the good. While this eliminates many of the delays inherent in the traditional returns process, the merchant is at a disadvantage. By including a return shipping label when the product is sent to the customer, the merchant essentially  
10 abrogates the right to refuse a return. And because the merchant is not notified when a customer decides to return an item, the merchant has no idea as to which or how many items are going to be returned, which can lead to inventory management problems. In addition, if the shipping label sent to the consumer is missing, lost or destroyed, the delays associated with providing a  
15 replacement shipping label return.

A need therefore exists in the industry for a returns system that eliminates the delays inherent in the traditional returns process yet allows a merchant to retain to have knowledge and control of the process. Thus, an unsatisfied need exists for an improved method and system for handling  
20 product returns that overcomes deficiencies in the prior art, some of which are discussed above.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Having thus described the invention in general terms, reference will  
25 now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

Fig. 1 is a high-level block diagram of an electronic return system in accordance with an embodiment of the present invention.

Fig. 2 is a high-level process flow diagram that shows several embodiments of the present invention.

5 Fig. 3 is a high-level block diagram that illustrates the operation of an electronic return system in accordance with a first embodiment of the present invention.

Figs. 4A-4F are illustrative screen shots of web pages that a customer uses to navigate a merchant return system in accordance with an embodiment  
10 of the present invention.

Figs. 5A-5B show a record layout of a return service request in accordance with an embodiment of the present invention.

Fig. 6 illustrates a return shipping label and label instruction area in accordance with an embodiment of the present invention.

15 Fig. 7 shows a record layout of a return service response in accordance with an embodiment of the present invention.

Figs. 8A-8B illustrate an electronic return notification in accordance with an embodiment of the present invention.

Fig. 9 is a high-level block diagram that illustrates the operation of an  
20 electronic return system in accordance with a second embodiment of the present invention.

Fig. 10 is a high-level block diagram that illustrates the operation of an electronic return system in accordance with a third embodiment of the present invention.

Fig. 11 is a process flow diagram that illustrates a method of handling undeliverable emails in accordance with an embodiment of the present invention.

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## SUMMARY OF THE INVENTION

The present invention provides systems and methods for processing return transactions over a network. An embodiment of the invention discloses an online return application that generates an electronic return shipping label that can be delivered to a browser of a customer that wishes to make a return. Also, disclosed is  
10 the creation and transmission of label delivery links, which provide for dynamic generation and delivery of shipping labels.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service  
15 request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured  
20 to electronically deliver the shipping label to the customer.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously  
25 purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured

to electronically deliver the shipping label to the customer; and wherein further the online return application is configured to store an electronic image of the shipping label, and send to the customer a link associated with the stored electronic image.

5 In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication  
10 with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured to electronically deliver the shipping label to the customer; and wherein further the online return application is configured to store an electronic image of the  
15 shipping label, and send to the merchant a link associated with the stored electronic image.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service  
20 request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online  
25 return application is further configured to format and send a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform locator address.

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In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured to format and send a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform locator address; and wherein the online return application is configured to send the label delivery link to the merchant via electronic mail.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured to format and send a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform locator address and wherein the uniform resource locator of the label delivery link corresponds to a label generation application, the label generation application configured to deliver the shipping label to a browser associated with the customer upon activation of the label delivery link.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured to format and send a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform locator address and wherein the uniform resource locator of the label delivery link corresponds to a label generation application, the label



generation application configured to deliver the shipping label to a browser associated with the customer upon activation of the label delivery link; and wherein further the label delivery link includes at least one of a package tracking number, a locality string, a merchant registration identification and a shipping label creation date.

In accordance with an embodiment of the present invention an electronic return shipping system is disclosed that includes a merchant application residing on a merchant computer, the merchant application configured to generate a return service request in response to a request from a customer to return a good previously purchased from a merchant; an online return application in electronic communication with the merchant application; the online return application configured to receive the return service request and generate a shipping label based at least in part on the return service request; and wherein the online return application is further configured to format and send a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform locator address and wherein the uniform resource locator of the label delivery link corresponds to a label generation application, the label generation application configured to deliver the shipping label to a browser associated with the customer upon activation of the label delivery link; wherein further the online return application is configured to generate an electronic return notification that contains both a human-readable area and a machine-readable area.

In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of initiating a return transaction upon receipt of a return service request, wherein the return service request contains shipping information, the shipping

information comprising an address associated with the customer and an address associated with a consignee; assigning a package tracking number to said return transaction; generating the shipping label based at least in part on the shipping information and the package tracking number; and providing the  
5 shipping label to the customer in electronic form.

In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of initiating a return transaction upon receipt of a return service request, wherein  
10 the return service request contains shipping information, the shipping information comprising an address associated with the customer and an address associated with a consignee; assigning a package tracking number to the return transaction; generating the shipping label based at least in part on the shipping information and the package tracking number; and providing the  
15 customer with an electronic image of the generated shipping label.

In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of initiating a return transaction upon receipt of a return service request, wherein  
20 the return service request contains shipping information, the shipping information comprising an address associated with the customer and an address associated with a consignee; assigning a package tracking number to the return transaction; generating the shipping label based at least in part on the shipping information and the package tracking number; and delivering an  
25 electronic image of the shipping label to a browser associated with the customer.

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In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of initiating a return transaction upon receipt of a return service request, wherein

5 the return service request contains shipping information, the shipping information comprising an address associated with the customer and an address associated with a consignee; assigning a package tracking number to the return transaction; generating the shipping label based at least in part on the shipping information and the package tracking number; storing an

10 electronic image of the shipping label; and sending the customer a link associated with the stored image.

In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of

15 initiating a return transaction upon receipt of a return service request; generating the shipping label based at least in part on the return service request; formatting a label delivery link that is associated with the shipping label and includes a hypertext link to a uniform resource locator address; providing the customer with the label delivery link; and delivering the

20 shipping label to a browser associated with the customer upon activation of the label delivery link.

In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of

25 initiating a return transaction upon receipt of a return service request; generating the shipping label based at least in part on the return service request; formatting a label delivery link that is associated with the shipping

label and includes a hypertext link to a uniform resource locator address; providing the merchant with the label delivery link; and delivering the shipping label to a browser associated with the customer upon activation of the label delivery link.

5 In accordance with an embodiment of the present invention a method of electronically providing a shipping label to a customer that wishes to return a good that was previously purchased from a merchant is disclosed that includes the steps of initiating a return transaction upon receipt of a return service request; generating a shipping label based at least in part on the return service request; 10 printing the shipping label at a carrier facility; taking the printed shipping label from the carrier facility to the customer; affixing the shipping label to a package containing the good to be returned; and delivering the package to the merchant.

## 15 DETAILED DESCRIPTION OF THE INVENTION

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to 20 the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

Many modifications and other embodiments of the invention will come 25 to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not

to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

5     A.     Architecture

Fig. 1 is a high-level diagram of an electronic return system **10** for practicing various aspects of an embodiment of the present invention. In this embodiment, the present invention includes a merchant server **110**, a customer **120**, a vendor server **130** and a carrier server **140**, each in communication  
10     using a common computer network **100**. As used herein, the term customer **120** includes, without limitation, an individual or an entity, with or without a personal computer. In the disclosed embodiment, the common computer network **100** is the Internet. But it will be readily apparent to one of ordinary skill in the art that the present invention may be implemented in any  
15     networked environment. Moreover, and as disclosed in more detail below, some of the communications described herein may occur by means other than the common computer network **100**.

As described herein, the customer **120** is the buyer of a good that wishes to return it. In a preferred embodiment, the merchant **110** is the entity  
20     that sold the good to the customer **120** and the vendor **130** is the entity that receives the good that is being returned. In some cases, of course, a merchant may require that goods be returned directly to the merchant, in which case a vendor may not be involved in the returns process. Although the present invention is broad enough to include this situation, in the disclosed  
25     embodiment it will be assumed that a merchant and a vendor are involved in the returns process. Finally, other electronic returns models can, of course,

exist that make use of the present invention and these are intended to be encompassed by the following disclosure as well.

In a preferred embodiment, the merchant **110**, vendor **130** and carrier **140** servers are capable of transmitting and receiving data over the network **100** using standard Internet protocols, including HTTP and HTTPS. Similarly, the customer **120** has a computer that can send and receive electronic mail and that is equipped with a web browser capable of viewing web pages. As explained below, however, the present invention can be implemented even if one or more of these entities are not connected to the network **100**. As a non-limiting example, the electronic return system described herein will work if a customer **120** uses a phone rather than a computer to contact a merchant to request a return.

In addition, the present invention may apply to the situation in which a customer buys a good from a physical location, such as a merchant retail store and later decides to return the good. Rather than returning to the physical location of the merchant, the customer may elect to use the present invention to initiate the return.

Also in a preferred embodiment, an online return application **150** and a label generation application **160** reside on the carrier server **140**, and a merchant return application **115** resides on the merchant server **110**. It will be readily apparent to one of ordinary skill in the art that one or more of these applications can reside elsewhere. For example, a label generation application may reside on a separate server operated by the carrier or might exist as a carrier component on the merchant server **110**. The operations of the various applications are described in detail below and the present invention is broad

enough and intended to encompass embodiments in which the applications reside on these or other computers.

#### B. Operation

In accordance with the present invention, several embodiments of a system are herein described that will process a customer's request to return a good purchased from a merchant. Fig. 2 is a high-level process flow diagram that illustrates several of these embodiments.

In each of the herein-described systems, a customer contacts a merchant and requests the return of a good. Upon approval of the return request, the merchant contacts an online return application 150 and provides the shipping information necessary to generate a return shipping label. In each of the described embodiments, the ship from information is address information associated with the customer. The merchant may have the ship from information on file or may prompt the customer to enter and/or modify the ship from information as part of the return transaction. The destination or consignee information of the shipping label may be a merchant address or a vendor address, depending on where the product is to be returned.

In the first process flow shown in Fig. 2, the carrier generates a label in Step 1 and returns the label to the merchant in Step 2. As described in greater detail below, the shipping label that is generated and transmitted to the merchant may be formatted via Graphics Interchange Format (GIF), Eltron Programming Language (EPL2), portable document format (PDF) or via other formats known in the art. The merchant then has the option of presenting the label image to the customer's browser (Step 3) or to store the label on the merchant server and provide the customer with a hyper-text link to the label via email (Steps 4 and 5).

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Another embodiment of the present invention is illustrated by the second process flow of Fig. 2. In this process flow, instead of transmitting a label image, the carrier generates a label delivery link to the carrier server. In this embodiment, the information necessary to generate a shipping label is embedded in the link. When the label delivery link is activated, either by the merchant or customer, a call is made to the label generation servlet and a shipping label is dynamically generated and delivered to the customer browser.

In Step 10, the carrier generates a label delivery link in response to a return request. If the merchant decides to have the label delivery link sent directly to the customer, the process proceeds to Step 11 and the carrier sends an email containing the label link to the customer. In Step 12, the customer activates the label delivery link, which causes a shipping label to be generated and delivered to the customer's browser. Alternatively, the merchant can have the process proceed to Step 13 where the label delivery link is sent to the merchant. At that point, the merchant can either activate the label link and have the shipping label delivered to the customer browser (Step 14), or the merchant can forward the label delivery link to the customer via email and permit the customer to activate the link (Steps 15 and 16).

In the final process flow shown in Fig. 2, the online return application determines the carrier site closest to the customer and prints the generated shipping label at the local carrier site (Step 20). The process then can proceed to Step 21 wherein a carrier driver takes the label to the customer, affixes the label to the package and accepts the package. Alternatively, the carrier will mail the label to the customer and have the customer assume responsibility for



affixing the label and delivering the labeled package to a carrier drop off location.

The following paragraphs describe in greater detail the various embodiments summarized above.

5           Fig. 3 is a high-level diagram that illustrates a first method by which an online return application **150** processes a return request from a customer **120**. The process starts in **Step 200** with a customer **120** contacting a merchant and notifying the merchant that the customer wishes to return a good that the customer previously purchased. The following paragraphs describe a situation  
10           in which a customer **120** contacts the merchant through a merchant website. But it will be readily apparent that a customer **120** might request a return over the telephone through a customer service representative or by phoning the merchant directly. These and other methods by which a customer **120** might submit a return request are encompassed by this invention.

15           Figs. 4A-4F illustrate the type of web pages that a merchant might use to permit a user to submit a return request. The term user is used rather than customer to expressly include the situation in which a customer **120** communicates with a customer service representative that uses a merchant website to enter the customer's return request.

20           Fig. 4A shows a merchant web page that lists the prior orders **200** that a customer **120** has placed with the merchant along with the order date **205**, total **210** and status **215** associated with each order **200**. For each order **200**, the customer **120** is given the option of clicking on a hyperlink labeled "Track" **220** to track an order shipment or "Return" **225** to initiate the process  
25           of requesting a return. Additional options on the web page of Fig. 4A include links to change billing **230** and shipping address **235** information.

In this example, if the customer **120** clicks the return link **225** corresponding to order number 815499 the merchant server **110** links to a web page such as that shown in Fig. 4B. This web page lists the goods that comprise order 815499 and includes a stockkeeping unit (SKU) number **250**, a good description **255**, the quantity **260** of a particular good purchased in the order and a price **265** paid for the good. There are two goods listed in Fig. 3B: a 56K V90 KFLEX Dual Mode PCI D/F/V Modem Motorola Chip ("Motorola chip") and a 50X Reader EIDE 650A 128k 85ms 6000 kb/sec Vert Mnt Capb ("50x reader"). In this example, a return merchandise authorization (RMA) #319910 has already been issued for the Motorola chip. This may be because the customer **120** previously submitted a return request for the Motorola chip or that the merchant has a policy to automatically grant return requests associated with the chip. As to the 50x reader, the customer **120** is given the option of checking a check box **270** to request a return of that item.

After checking the check box **270** associated with the 50x reader and clicking on the Returned Check Item(s) box **275**, the customer **120** proceeds to Fig. 4C. With reference to Figs. 4C - 4E, the customer **120** is next prompted for information about the good being returned. This information may for example aid the merchant in determining whether to authorize the return and/or to determine whether the good should be returned to the merchant or to the vendor that supplied the good. In this example, the customer **120** is prompted to supply the reason for the return **280** (Fig. 4C), whether the package has been opened **285** (Fig. 4D) and whether the customer **120** seeks a credit or a replacement **290** (Fig. 4E). These steps are presented for illustrative purposes only and it should be readily apparent that different merchants will use different criteria to determine whether a good may be

returned and under what conditions. Moreover, a merchant may use an automatic returns process like the one described herein or may alternatively review each return on an individual basis.

Upon entering the requested information, the customer **120** clicks the  
5 Request an RMA# button **295** and the process proceeds to Fig. 4F. In this example, the merchant has authorized the return and assigned a RMA number of 323530 to the 50x reader. In an alternative embodiment, the merchant does not authorize returns immediately and the customer **120** receives a web page with a message indicating that the return request will be processed. Once the  
10 merchant approves the return request and assigns a RMA number to the transaction, a shipping label link **300** is sent to the customer **120**. In one embodiment, the merchant presents a shipping label in the customer browser. In a preferred embodiment, the merchant emails a label delivery link **300** to the customer **120** and the customer **120** presents the shipping label to the  
15 customer browser by activating the link. Additional embodiments and methods of presenting a shipping label to a customer are intended to be encompassed by the present invention, some of which are discussed more fully herein.

When the customer **120** clicks on the label delivery link **300**, the  
20 customer's return request is sent from the merchant website to a merchant return application **115**. In a preferred embodiment, the merchant return application **115** resides on the same server as the merchant website. But it will be readily apparent to one of ordinary skill in the art that a merchant return application may reside on a separate server or on a stand-alone device.  
25 The merchant return application **115** confirms that the customer **120** has provided the necessary returns information, validates the data provided and

generates a return service request **305**. The return service request **305** is then sent to the merchant server **110** where it is forwarded to the carrier server **140** via the common computer network **100**.

In a preferred embodiment, the return service request **305** is formatted  
5 as an Extensible Markup Language (XML) file. XML is well known to one of ordinary skill in the art as an open standard for defining markup languages to represent structured information over the Internet. In general, XML describes a class of data objects called XML documents and partially describes the behavior of computer programs that process them. The use of XML in  
10 connection with the present invention is for illustrative purposes only and it will be readily apparent to one of ordinary skill in the art that the present invention may be implemented using other data formats.

Figs. 5A and 5B show a typical XML return service request **305**. In this non-limiting example, a return service request **305** includes access request  
15 information such as the merchant's access license number **310**, userid **315** and password **320**, label specification information **322** such as a print method **325**, stock size **330**, HTTP user agent **332**, and image format **335**, shipment information **337** such as shipper **340** (the merchant), destination or ship to **345** (the vendor) and origination or ship from **350** (the customer **120**) data, return  
20 service **351**, service **352**, payment information **355** and package information **360**. In a preferred embodiment, the package information **360** includes a vendor email address **365** and an undeliverable email address **370**, both of which are discussed in greater detail below.

Returning to the embodiment of Fig. 3, in **Step 210** the online return  
25 application **150** receives the return service request **305** created by the merchant return application **115** and transmitted by the merchant server **110**.

In a preferred embodiment, the online return application **115** resides on the carrier server **140**. But it will be readily apparent to one of ordinary skill in the art that the online return application **115** may reside on a separate server or on a stand-alone device. Upon receipt, the online return application **150**

5 verifies that the validity of the data stored in the return service request **305** and assigns a package tracking number **375** to the return transaction. In a preferred embodiment, when a package tracking number **375** is assigned, the shipping information related to the return transaction is stored in a package tracking database **380**. Later, when the package is shipped, the parties to the

10 transaction can track the progress of the package through the carrier system using the package tracking number **375**. In a preferred embodiment, the online return application **150** does not itself assign a package tracking number **375**, but communicates with another carrier application that assigns package tracking numbers **375** and tracks packages shipped within the carrier system.

15 In Step **215**, the online return application **150** forwards the return service request **305** to a label generation application **160**. In a preferred embodiment, the online return application **150** sends the label generation application **160** only the shipping and label information that is required to generate a package label. The online return application **150** thus includes the

20 additional functionality of extracting the shipping and label information from the return service request **305** and reformatting the information into a file that is inputted into the label generation application **160**. The label generation application **160** may reside on the same server as the online return application **150** or may reside on another server or on a stand-alone device.

25 In Step **220**, the label generation application **160** generates a return shipping label **400** from the shipping and label information, and transmits the

return shipping label **400** back to the online return application **150**. The process of generating a return shipping label **400** is well known to one of ordinary skill in the art and therefore, is not described in detail herein.

Fig. 6 illustrates a return shipping label **400** in accordance with an embodiment of the present invention. In this embodiment, the return shipping label **400** consists of two portions: a label area **405** and a text area **410**. The label area **405** includes an origination shipping address **415**, a destination shipping address **420**, Maxicode™ **425**, carrier service level **427**, package weight **430**, post office code **435**, post office bar code **440**, package tracking number **375**, carrier bar code **450**, billing code **455**, merchandise description **460**, service identification **465**, and RMA number **470**. The text area **410** includes instructions as to how to print and affix the label **475**, shipping instructions **480**, and a drop-off location link **485**. In one embodiment, the drop-off location link **485** is a link that includes the zip code of the origination shipping address embedded in the URL address. When the link is activated, the user receives a web page that lists the carrier drop-off locations that are closest to the origination shipping address. Alternative embodiments of the return shipping label **400** are also well-known in the art and are encompassed by the present invention, and may include such additional features as packing instructions, advertisements or a link to a merchant or vendor web site. Additional links may be added to allow a customer to provide feedback or complaints.

Returning to Fig. 3, in **Step 225** the online return application **150** transmits the return shipping label **400** to the merchant server **110** accompanied by a return service response **500**. The return shipping label **400** may be transmitted as a GIF, EPL2, or PDF file or via other formats that are

well known in the art for transmitting an image. In one embodiment, the return service response **500** is formatted as XML formatted data, but could readily be formatted using other formats known in the art. Fig. 7 illustrates a typical XML return service response **500** that a merchant might receive in

5 Step **225**. In this embodiment, the return service response **500** includes a response section **505** with fields for transaction reference **510** and response status code **515**. The transaction reference **510** is a field for caller data. In a preferred embodiment, the transaction reference **510** allows the customer to add information to tie the response to the original return request. The

10 response status code **515** notifies the merchant if an error occurred during the processing of the XML return service request. The XML return service response **500** also includes a shipment results section **520**, a billing weight section **525**, a shipment identification number **530** and a package tracking section **535**. In one embodiment, the shipment identification number **530** is

15 used to support multi-piece package shipments. In many cases, the package tracking number **375** will be used as the shipment identification number **530**. In multi-piece shipments, the shipment identification number **530** is the package tracking number **375** of the first package.

Returning again to Fig. 3, in Step **230** the merchant provides the return

20 shipping label **400** to the customer **120**. In a preferred embodiment, the foregoing process of generating a return service request **305** and generating a return shipping label **400** is near instantaneous. Thus, an electronic image of the return shipping label **400** is delivered to the customer's browser in response to the customer's activation of the shipping link label **300** while the

25 customer is still on the merchant website. Alternatively, the steps of generating and processing a return service request **305** may not be

instantaneous and the merchant may provide the customer **120** with an electronic image of a return shipping label **400** at a later time. Delivery of the return shipping label **400** from the merchant to the customer **120** can occur via email, the postal system or by other methods discussed herein. In one  
5 embodiment, the merchant or the carrier may store the electronic image of the return shipping label **400** on one of the merchant server **110** and carrier server **140** and the merchant will send an email to the customer **120** that contains a link to the label image. Alternatively, a return shipping label **400** may be printed by a carrier and hand-delivered by a driver to the customer **120**.  
10 Additional methods of providing an electronic image of a return shipping label **400** to a customer **120** exist are known in the art and are intended to be encompassed by the present invention.

In Step **235**, the online return application **150** sends an electronic return notification **550** to the vendor server **130** indicating that a return service  
15 request **305** has been processed and that a customer **120** intends to ship a returned good to the vendor. In a preferred embodiment, an electronic return notification **550** is generated for every return service request **305** processed by the online return application **150**. In an alternative embodiment, an electronic return notification **550** is automatically generated whenever the destination  
20 shipping address **420** is different from the merchant's shipping address. In still another embodiment, an electronic return notification is generated whenever the merchant includes a vendor email address **365** in the return service request **305**.

Figs. 8A and 8B illustrate an electronic return notification **550** in  
25 accordance with an embodiment of the present invention. In this embodiment, the electronic return notification **550** consists of two portions: a human-



readable area **555** (Fig. 8A) and a machine-readable area **560** (Fig. 8B). The human-readable area **555** includes an origination shipping address **415**, destination shipping address **420**, package tracking number **375**, merchandise description **460**, UPS service level **427**, package weight **430** and RMA number **470**. In this manner, the human-readable area **555** of the electronic return notification **550** provides returns transaction information to vendors that rely on individuals rather than machines to track incoming packages and returns.

Fig. 8B illustrates the machine-readable area **560** of an electronic return notification **550** in accordance with an embodiment of the present invention. In this embodiment, the machine-readable area **560** is formatted as an XML document, but it will be readily apparent to one of ordinary skill in the art that other data formats exist and may be used with the present invention. The machine-readable area **560** also contains the returns transaction information, but allows a vendor with an automated shipping system to process the electronic return notification **550** without requiring a manual review of the email text. In a preferred embodiment, the machine-readable area **560** includes shipper information **340**, an origination shipping address **415**, a destination shipping address **420**, a merchandise description **460**, package weight **430**, package tracking number **375** and RMA number **470**. Also in a preferred embodiment, the machine-readable area **560** is appended to the human-readable area **555** and comprises an electronic mail. But it will be readily apparent that either or both sections of the electronic return notification **550** can be transmitted separately and by means other than email. Thus, in an illustrative alternate embodiment, in Step **235** a vendor might

receive a facsimile of just the human-readable area **555** of the electronic return notification **550**.

Fig. 9 is a high-level diagram that illustrates a second method by which an online return application **150** processes a return request. The process starts  
5 in Step **700** with a customer **120** contacting a merchant and notifying the merchant that the customer wishes to return a good that the customer **120** previously purchased. This notification may or may not occur electronically but in a preferred embodiment occurs via a merchant web site that resides on the merchant server **110**.

10 In Step **705**, the merchant application **115** processes the return request and generates a return service request **305**, which is transmitted to the label generation application **150**. In a preferred embodiment, the return service request **305** is formatted as an XML document but other formats are known in the art and may be used with the present invention. Upon receipt of the return  
15 service request **305**, the online return application **150** verifies the validity of the transmitted data and assigns a package tracking number **375** to the return request. In an alternative embodiment, the online return application **150** does not itself assign a package tracking number **375** to the return transaction, but communicates with another carrier application that assigns package tracking  
20 numbers and tracks packages shipped within the carrier system.

In Step **710**, the online return application **150** forwards the return service request **305** to a label generation application **160**. In an alternative embodiment, the online return application **160** extracts the shipping and package label information from the return service request **305** and reformats  
25 the information before it is sent to the label generation application **160**.

In Step **715**, the label generation application **160** generates a return shipping label **400** from the shipping and package label information, and transmits the return shipping label **400** back to the online return application **150**.

5 In Step **720**, the online return application **150** sends a return service confirmation **600** to the merchant server **140**. In a preferred embodiment the return service confirmation **600** is formatted as an XML document, but it will be readily apparent to one of ordinary skill in the art that other data formats exist and may be used with the present invention. In one embodiment, the  
10 information contained in the return service confirmation **600** is the same as that in the electronic return verification **550** (see Fig. 8b). In alternative embodiments, the return service confirmation **600** may include a link to the return shipping label **400** or an encoded label delivery link **625** (discussed below).

15 In Step **725**, the online return application **150** sends an electronic return notification **550** to the vendor server **130** indicating that a return service request **305** has been processed and that a customer **120** intends to ship a returned good to the vendor. In a preferred embodiment, the electronic return notification **550** has a machine-readable area **560** appended to the human-  
20 readable area **560** to allow automatic input into a vendor shipping system without the need for human intervention. In alternative embodiments, the returned good is shipped directly to the merchant and no electronic return notification **550** is generated as no vendor is involved. Alternatively, only the machine-readable area **560** of the electronic return notification **550** is supplied  
25 to the vendor.

In Step 730, the online return application 150 generates and sends a return service email 630 to the customer 120. In one embodiment, the return service email 630 includes a link to an image file of a return service label 400. The return service email 630 can also include an encoded label delivery link 625. In a preferred embodiment, the online return application 150 generates the encoded label delivery link 625, which is a hypertext link to a uniform resource locator (URL) with additional information appended that identifies the return shipping label 400 generated for the return service request 305. In a preferred embodiment of the delivery link 625 includes a link to a URL. But it will be readily apparent that the delivery link 625 may include any encoded or encrypted string of characters which will cause the online return application or other application in the return services system to respond with an image of the desired shipping label. Moreover, the shipping label delivered to the customer browser may be returned from a storage location or generated dynamically at the time of activation of the link 625.

In a preferred embodiment, the label delivery link 625 when activated links to the URL of a label generation servlet 650. Servlets are well known in the art as Java applications that run in a web server or application server and provide server-side processing. Because they are written in Java, servlets are portable between servers and operating systems. The servlet programming interface (Java Servlet API) is a standard part of the Java 2 platform, enterprise edition (J2EE). If a Web server, such as Microsoft's Internet Information Server (IIS), does not run servlets natively, a third-party servlet plug-in can be installed to add the runtime support.

The use of a Java servlet in this embodiment is for illustrative purposes only. One of ordinary skill in the art will readily recognize that there are

many methods of invoking the dynamic generation or recovery of the shipping label. For example, the target of the URL could be an application written in C, C++, or any other computer language invoked through a common gateway interface or via other means.

5           In an alternative embodiment, the label delivery link **625** when activated links to the URL of the online generation application **150**, which establishes the link to a label generation servlet **650**.

          In a preferred embodiment, the information appended to the URL in the label delivery link **625** to identify a return service label **400** includes a  
10   package tracking number **375**, a locality string **635**, a merchant registration identification **640** and, optionally, a return service label creation date **630**. Because this information identifies a return service label **400** it contains potentially sensitive shipping information; therefore, in a preferred  
15   embodiment, the information is encrypted to prevent unauthorized access as the return service email **630** passes through a computer network **100** such as the Internet. In the preferred embodiment, the information string appended to the label delivery link **625** is encrypted using triple data encryption standard (DES) techniques and is encoded.

          In Step **735**, the customer **120** receives the return service email **800** and  
20   activates the label generation servlet **650** by clicking on the label delivery link **625**. The foregoing steps of processing a return service request **305** may be near instantaneous, or there may be a delay between the customer's request to make a return and the transmittal of a return service email **800** containing a label delivery link **625**. Upon activation of the label delivery link **625**, the  
25   information string is decoded and decrypted. In one embodiment, the online return application **150** receives the information string and performs the

decoding and decryption processes. In an alternative embodiment, the label generation servlet **650** performs the decoding and decryption processes.

The online return application **150** extracts the package tracking number **375** and merchant registration identification **640** from the decrypted and decoded information string. This information is then compared against a return label database **670** to retrieve the shipping information that is necessary to regenerate the requested return shipping label **400**. In one embodiment, a new record is added to the return label database **670** every time that a return shipping label **400** is generated. In another embodiment, the return label database **670** is populated only when a customer **120**, merchant or vendor has requested that a return shipping label **400** be saved for possible recovery and/or regeneration. In yet another embodiment, the shipping information stored on the return label database **670** is kept for a finite period and is erased or migrated after the expiration of a predetermined period or occurrence of a predetermined condition.

In Step **740**, the online return application **150** generates a return shipping label **400** using the shipping information obtained from the return label database **670** and transmits the return shipping label **400** to the customer **120**. In one embodiment, a copy of the return shipping label **400** associated with the decoded and decrypted package tracking number **375** and merchant registration identification **640** is stored on the return label database **670**. In another embodiment, a copy of the return shipping label **400** is not stored on the return label database **670** and the online return application **150** sends the associated shipping information to the label generation application **160** to have the return shipping label **400** generated.

In one embodiment, a return shipping label **400** and/or the shipping information necessary to regenerate a return shipping label **400** is indexed by the package tracking number **375** and merchant registration identification **640**. In an effort to obtain additional security, an alternative embodiment may also  
5 require a return service label creation date **630** to regenerate a return service label **400**. In such an embodiment, the return service label creation date **630** may be included in the encrypted and encoded information string transmitted to the online return application **150** upon activation of the label delivery link **625**.

10 Label recovery is also available in the present invention. Label recovery exists to cover the contingency of a customer being unable to print a label. In such case, the merchant has the ability to transmit a label recovery request to the online return application and receive another copy of the return shipping label generated for the original return service request. For example,  
15 upon receipt of a recovery request, another copy of the electronic image of a return shipping label may be provided to the merchant or, alternatively, the label delivery link associated with the original return request may be regenerated and re-transmitted.

Fig. 10 is a high-level diagram that illustrates a second method by  
20 which an online return application **150** processes a return request. The process starts in Step **800** with a customer **120** contacting a merchant and notifying the merchant that the customer wishes to return a good that the customer **120** previously purchased. This notification may or may not occur electronically but in a preferred embodiment occurs via a merchant web site  
25 that resides on the merchant server **110**.

In Step 805, the merchant application 115 processes the return request and generates a return service request 305, which is transmitted to the label generation application 150. In a preferred embodiment, the return service request 305 is formatted as an XML document but other formats are known in the art and may be used with the present invention. Upon receipt of the return service request 305, the online return application 150 verifies the validity of the transmitted data and assigns a package tracking number 375 to the return request. In an alternative embodiment, the online return application 150 does not itself assign a package tracking number 375 to the return transaction, but communicates with another carrier application that assigns package tracking numbers and tracks packages shipped within the carrier system.

In Step 810, the online return application 150 forwards the return service request 305 to a label generation application 160. Alternatively, the online return application 150 does not send the return service request 305 to the label generation application 160 and instead extracts and sends just that shipping and package label information that is required to generate a return shipping label 400. In Step 815, the label generation application 160 generates a return shipping label 400 from the shipping and package label information, and transmits the return shipping label 400 back to the online return application 150.

In Step 820, the online return application 150 sends a return service confirmation 600 to the merchant server 140. In a preferred embodiment the return service confirmation 700 is formatted as an XML document, but it will be readily apparent to one of ordinary skill in the art that other data formats exist and may be used with the present invention. Also, in a preferred embodiment, the return service confirmation 600 includes an image file for the



return shipping label **400**. In alternative embodiments, the return service confirmation **600** includes a link to the return shipping label **400** or, if security is a necessary or desired, to an encoded label delivery link **625**.

In Step **825**, the online return application **150** sends an electronic return notification **550** to the vendor server **130** indicating that a return service request **305** has been processed and that a customer **120** intends to ship a returned good to the vendor. In a preferred embodiment, the electronic return notification **550** has a machine-readable area **560** appended to the human-readable area **560** to allow automatic input into a vendor shipping system without the need for human intervention. In alternative embodiments, the returned good is shipped directly to the merchant and no electronic return notification **550** is generated as no vendor is involved.

In Step **830**, the online return application **150** accesses a carrier facility database **690** using the origination shipping address **415** to determine which local carrier facility **695** is responsible for deliveries to and from the customer's address. The carrier facility database in a preferred embodiment resides on a carrier server **140**, but it will be readily apparent that carrier facility information can be stored on a wide variety of computers and/or other electronic devices known in the art. In a preferred embodiment, the online return application **150** then transmits an image of the return shipping label **400** to a printer located at the local carrier facility **695** where the return shipping label **400** is printed. In an alternative embodiment, the online return application sends the return shipping label **400** to a computer or server at the local carrier facility **695** where an operator prints the return shipping label **400**.

In Step 835, a driver from the local carrier facility 695 picks up the return shipping label 400 and takes it to the origination shipping address 415, which in a preferred embodiment is the customer's address. The driver then picks up the good that is being returned from the customer 120, affixes the return shipping label 400 to the package and places it in the carrier shipping system where it is ultimately delivered to the destination shipping address 420.

If the customer 120 is not home when the driver attempts to pick up the package, the driver may leave the return shipping label 400 for the customer 120 or may attempt to pick up the package at a later date. In a preferred embodiment, the carrier service level 427 determines which action a driver takes if the customer 120 is not home for the pick up attempt. In one embodiment, a carrier offers a single attempt service in which the driver makes one attempt to pick up the package. In the single attempt service, the driver leaves the return shipping label 400 at the customer's residence if the customer 120 is not home when the pick up attempt is made. The customer 120 thus is required to affix the return shipping label 400 to the package and place the package in the carrier shipping system by delivering it to a carrier drop-off location. In alternative embodiments, other carrier service levels 427 are available in which the driver will return on multiple occasions to try to pick up the package. In the preferred embodiment, a carrier offers single attempt and three attempt carrier service levels 427 though other levels of service can be offered in accordance with the present invention.

Another aspect of the present invention is a system and method for handling undelivered email. Invalid email addresses are a recurring problem in any system that relies upon communication through email and the problems are exacerbated in automated systems due to the lack of human involvement.

In many cases, an invalid email address is a result of a simple typographical error, but invalid addresses can occur from outdated Internet accounts or any of a host of other reasons that are well known in the art.

In the present invention, communication between the customer **120**,  
5 merchant server **110**, carrier server **140** and vendor server can occur via email. For example, in a preferred embodiment a carrier relies upon the vendor email address **365** provided by the merchant in the return service request **305** to transmit an electronic return notification **550** to the vendor server **130**. If the vendor email address **365** provided by the merchant is invalid or otherwise  
10 undeliverable, there is a possibility that the vendor server **130** will not receive the electronic return notification **550**. At a minimum, human intervention by the carrier and/or the merchant may be required to address the problem.

Fig. 11 is a high-level block diagram of a method of handling undeliverable emails in accordance with an embodiment of the present  
15 invention. In Step **900**, the online return application **150** receives a return service request **305** from a merchant that includes a vendor email address **365**. In a preferred embodiment, the return service request **305** also includes a bounce email address **370**. The bounce email address **370** may be the merchant's email address, the vendor's email address or a customer service or  
20 other email address of a person or persons that are prepared to handle undelivered emails.

In Step **910**, the online return application **150** generates and sends an electronic return notification **550**. In a preferred embodiment, the electronic return notification **550** includes an encrypted XML document attached to the  
25 email that includes the bounce email address **370**. In a preferred embodiment, the XML document is encrypted using triple data encryption standard (DES)

techniques, but other encryption techniques are well known in the art and can be used with the present invention.

If the electronic return notification **550** is returned as undeliverable (Step **920**), the online return application **150** retrieves the XML attachment  
5 from the undelivered email and forwards the electronic return notification **550** to the bounce email address **370**. The online return application **150** forwards the undelivered email to the merchant server **110** under the assumption that the merchant or other entity associated with the bounce email address **370** is equipped to address the issue that caused the electronic return notification **550**  
10 not to be delivered. One of ordinary skill in the art will readily recognize that the undelivered email may also be forwarded to a customer **120**, a merchant return application **115** or to any other person or entity that has a valid email address.

The electronic return system **10**, which comprises an ordered listing of  
15 selectable services can be embodied in any computer-readable medium for use by or in connection with an instruction execution system, apparatus, or device, such as a computer-based system, processor-containing system, or other system that can fetch the instructions from the instruction execution system, apparatus, or device and execute the instructions. In the context of this  
20 document, a "computer-readable medium" can be any means that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The computer readable medium can be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor  
25 system, apparatus, device, or propagation medium. More specific examples (a non-exhaustive list) of the computer-readable medium would include the

following: an electrical connection (electronic) having one or more wires, a portable computer diskette (magnetic), a random access memory (RAM) (magnetic), a read-only memory (ROM) (magnetic), an erasable programmable read-only memory (EPROM or Flash memory) (magnetic), an optical fiber (optical), and a portable compact disc read-only memory (CDROM) (optical). Note that the computer-readable medium could even be paper or another suitable medium upon which the program is printed, as the program can be electronically captured, via for instance optical scanning of the paper or other medium, then compiled, interpreted or otherwise processed in a suitable manner if necessary, and then stored in a computer memory.

Further, any process descriptions or blocks in flow charts should be understood as representing modules, segments, or portions of code which include one or more executable instructions for implementing specific logical functions or steps in the process, and alternate implementations are included within the scope of the preferred embodiment of the present invention in which functions may be executed out of order from that shown or discussed, including substantially concurrently or in reverse order, depending on the functionality involved, as would be understood by those reasonably skilled in the art of the present invention.

It should be emphasized that the above-described embodiments of the present invention, particularly any "preferred embodiments" are merely possible examples of the implementations, merely set forth for a clear understanding of the principles of the invention. Any variations and modifications may be made to the above-described embodiments of the invention without departing substantially from the spirit of the principles of the invention. All such

modifications and variations are intended to be included herein within the scope of the disclosure and present invention and protected by the following claims.

In concluding the detailed description, it should be noted that it will be obvious to those skilled in the art that many variations and modifications can be made to the preferred embodiment without substantially departing from the principles of the present invention. Also, such variations and modifications are intended to be included herein within the scope of the present invention as set forth in the appended claims. Further, in the claims hereafter, the structures, materials, acts and equivalents of all means or step-plus function elements are intended to include any structure, materials or acts for performing their cited functions.